The National Animal Germplasm Program (NAGP)
Program Update – December 31, 2001

USDA Agricultural Research Service and Cooperative State Research, Education and Extension Service

Flexibility for economic growth and production of high quality protein through biodiversity

NAGP - A Public and Private Sector Enterprise: The vast majority of genetic resources NAGP is striving to protect are held by individual breeders and private sector companies. Executing the NAGP mandate requires university, government agency and especially private sector support and involvement. It is through the good will and far sightedness of the livestock, poultry and aquaculture industries that enables us to execute our mission. Last year's challenges of BSE, Foot and Mouth and bioterrorism underscore the need for an effective working relationship between NAGP and the private sector.

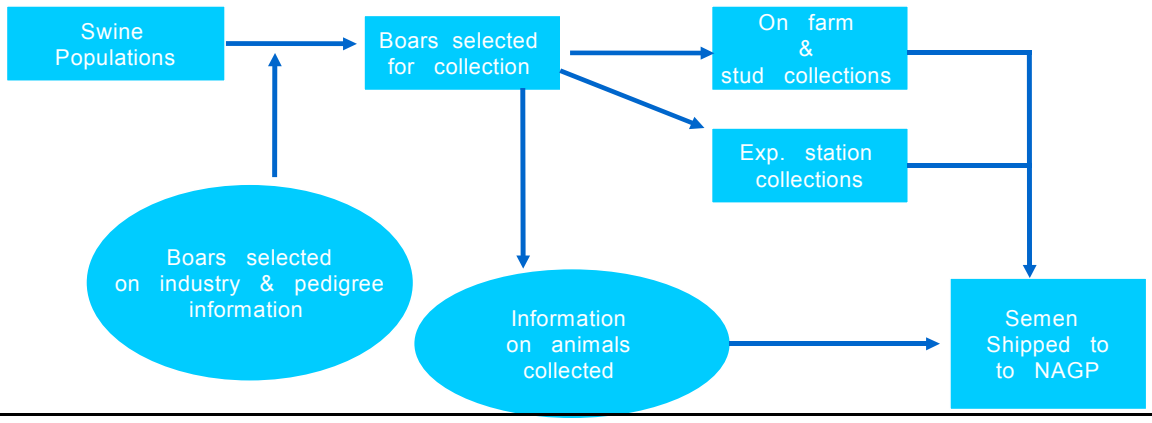
We want to thank those individual breeders, private sector entities, universities and other government agencies that have or are participating in the NAGP process. With your continued support we will succeed in developing secure reserves of our nation's genetic resources.

Beef Committee Starts Hereford Collection: The NAGP Beef Committee has started a breed wide collection for Hereford cattle by systematically collecting germplasm from the 1960's to the present. Facilitating this process required American Hereford Association involvement to garner breeder support and access to the Association's pedigree files. Dr. Craig Huffhines (Executive Vice President) of the American Hereford Association was very instrumental in obtaining Hereford Board of Directors approval for this project. NAGP is now in a position to start evaluating pedigrees for genetic relationships and acquiring a broad sampling of Hereford semen.

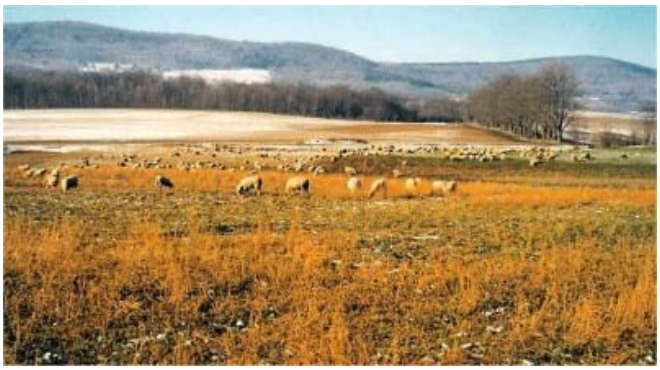
Developing the Swine Collection: The Swine Committee has overseen an evolving protocol for collecting and freezing boar semen. Key activities have been:

- Developing a procedure to select boars for collection that minimizes the genetic relationship between boars;
- The National Swine Registry has been making purebred breeders aware of our need for germplasm and obtaining producer consent to collect their boars;
- The American Livestock Breeds Conservancy has initiated a swine census survey;
- Subcommittees developing health and germplasm access protocols; and
- Initiating a Hereford pig collection by identifying boars for collection and developing the logistics of boar collection and fresh semen shipment to Ft. Collins (see diagram below).

Shipping Freshly Collected Germplasm: Until now an impediment to collecting swine germplasm has been cost effective cryopreservation. A similar problem exists for sheep, goats and chickens. Development and implementation of a shipping protocol for boar semen is expected to alleviate this bottleneck and facilitate swine germplasm collection, as well as have potential use with other species. The swine industry routinely ships fresh extended semen for AI. Using this industry approach as a model, Purdue Univ, Germplasm and Gamete Physiology Laboratory and NAGP have been evaluating protocols for shipping fresh extended semen to Fort Collins for cryopreservation. The double-boxed method used by the swine industry was used as a



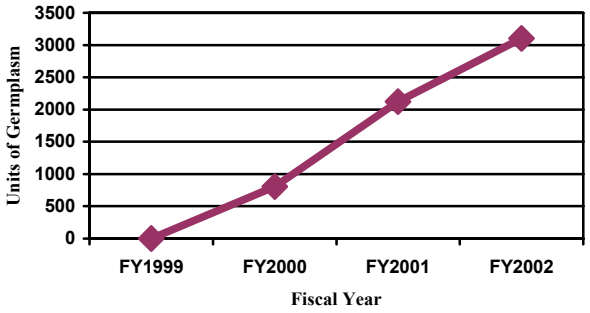
starting point and then refined and extended into a turnkey process by incorporating the necessary reagents and equipment that boar studs or on-farm collectors will need to extend and ship samples to Ft. Collins.



Accession Status: During 2000 we initiated germplasm collections and at this point in time NAGP has acquired germplasm for dairy cattle (2 breeds), chickens (40 lines), beef cattle (1 breed/2 lines), goats (1 breed) and sheep (2 breeds).

Accession Development: Several committees have initiated collection strategies and are in the process of acquiring germplasm for the repository. These include 6 dairy breeds, 3 goat breeds, 2 sheep breed, 1 beef breed and 2 swine breeds and several commercial and research lines across species.

Across Species Collection of Germplasm: Cattle, Sheep, Goats, Chickens.



NAGP Symposium at ASAS/ADSA/PSA Meetings: NAGP developed a symposium at last summer's Animal, Dairy and Poultry Science meetings. The Symposium entitled "Conservation and Management of Animal Genetic Resources" featured a number of speakers addressing genetic and cryopreservation aspects managing animal genetic resources, as well as, progress reports by all the species chairmen. The symposium was sponsored by: Accelerated Genetics, Cobb Vantress, Cotswold Hybrid Turkeys, Hyline International and Semex Alliance.

US and Canada Start Country Wide Assessments: On November 8, 9 and 10 NAGP hosted a workshop developed by the Food and Agriculture Organization of the United Nations for the purpose of developing an assessment of the World's Animal Genetic Resources. United States and Canadian representatives participated in the workshop. The main focus of the workshop was on developing country reports. It is anticipated that the report will be finished over the next 12 months.

Committee Meetings: Species committees have tentative meeting dates as follows:

Aquaculture – Aquaculture America 2002 San Diego, CA; January 30, 2002

Policy Coordinating Committee Meeting – Washington, DC; February 25-26

Swine – World Pork Expo Des Moines, IA: June 6-8, 2002

Beef – Beef Improvement Federation, Omaha, NB; July 10-12, 2002

Dairy – ASAS/ADSA Quebec City, Canada; July 21-25

NAGP Committee Chairmen:

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